

## REMARKS

Claims 1-4, 6-8, 10-22, 24-34, 53 and 54 are currently pending. Claims 53 and 54 are newly added.

1. Claims 1-4, 6-8, 10-22, and 24-34 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. While Applicants disagree with the PTO's interpretation of the cited case law, Applicants have amended the claims as suggested in the Office Action dated August 30, 2007 to advance prosecution. As such, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. §112, second paragraph rejection.

2. Claims 1-4, 8, 10-11, 13-19, 22, 25, 26 and 28-33 were rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Bugosh (US 2,915,475); and claims 1-4, 6-8, 10-22, and 24-34 were rejected under 35 U.S.C. §103(a) as obvious over Bugosh. Applicants respectfully traverse these rejections for the following reasons.

Present claim 1 is directed to a surface coating solution including a surface coating base and boehmite particles provided in the surface coating base in an amount between 0.1 wt% and 20.0 wt%. The boehmite particles include mainly anisotropically-shaped particles having an aspect ratio of at least 3:1. The surface coating solution has a flow and leveling of at least 6 mils.

Present claim 22 is directed to a surface coating solution including boehmite particles in an amount between 0.1 wt% and 20.0 wt%. The boehmite particles comprises mainly anisotropically-shaped particles having an aspect ratio of at least 3:1 and a longest dimension of at least 50 nm. The surface coating solution has a flow and leveling of at least 6 mils.

Bugosh is directed to fibrous aluminum monohydrate particles. Bugosh further discloses that fibrous boehmite can be used as reinforcing filler in making plastic films, coatings, paints, adhesives, or other plastic articles. The fibrous boehmite may be mixed with aqueous dispersions of polymers. (Bugosh, col. 29, ll. 1-21). However, Bugosh is silent regarding

characteristics of the coatings and paints, such as flow and leveling, sag resistance, and set-to-touch dry time characteristics.

While, as disclosed by Bugosh, it may have been known to incorporate boehmite into coatings, paints, and adhesives, Applicants have discovered that anisotropic boehmite particles, and in particular, anisotropic boehmite particles formed using boehmite seed crystals, when used in the process outlined in the present application, advantageously produce surface coatings having desirable characteristics, such as desirable flow and leveling, sag resistance, set-to-touch dry time, and shear viscosity recovery. Specifically, as stated in the attached Rule 132 Declaration provided by Dr. Doruk O. Yener, Applicants have discovered that such desirable properties in a surface coating, such as a latex paint, result from activating anisotropic boehmite particles prior to incorporating such particles into a latex solution.

While the PTO dismissed Applicants assertions regarding activation of the anisotropic boehmite, the claimed properties result from such activation, making the assertions relevant. As stated in the attached Rule 132 Declaration by Dr. Doruk O. Yener and as illustrated in the accompanying Exhibit A, a significant difference in thixotropic properties exists between solutions including activated anisotropic boehmite particulate and solutions including unactivated anisotropic boehmite particulate. As illustrated in FIG. A1, shear stress versus shear rate curves are significantly different between an activated sample and an unactivated sample. In particular, the activated sample shows a larger hysteresis than the unactivated sample, indicative of the desired thixotropic properties. Such differences are further illustrated in FIG. A2, where the illustrated viscosities are two orders of magnitude greater in the activated anisotropic boehmite particles than in the unactivated boehmite particles. Further, such properties are stable, as illustrated by Example 1 of the present specification.

As such, a sample aqueous solution including approximately 20.0 wt% solids loading of activated anisotropic boehmite particles exhibits distinct thixotropic and viscous properties relative to an unactivated sample including approximately the same loading of boehmite particles. When activated anisotropic boehmite particles are incorporated into a surface coating, such thixotropic and viscous properties result in the claimed surface coating properties, including flow and leveling, sag resistance, set-to-touch dry time, and viscosity recovery.

Bugosh is silent regarding processing of a surface coating and merely states that boehmite particles may be added to coatings, paints, and adhesives. Further, Bugosh provides little specific teaching regarding the formation of coatings, paints, and adhesives, other than that plastic materials are benefited by incorporation of 1-40% fibrous boehmite. (Bugosh, col. 29, ll. 5-10). In order to inherently disclose a given property, a reference must necessarily have the recited characteristics. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish inherency of that result or characteristic. (See generally, MPEP 2112). As shown by Exhibit A, mere incorporation of approximately 20.0 wt% anisotropic boehmite particulate into a solution does not necessarily and thus does not inherently result in the claimed surface coating solution having the claimed properties. Bugosh fails to teach activation of anisotropic boehmite materials, and further, Bugosh lacks teaching that necessarily results in coating solutions having the claimed properties.

As such, Bugosh fails to teach or suggest, either explicitly or inherently, the claimed surface coating solution of claim 1 and of claim 22. In particular, Bugosh fails to teach or suggest a surface coating solution that includes anisotropic boehmite particles and that has flow and leveling of at least about 6 mils.

For at least the foregoing reasons, claims 1-4, 6-8, 10-22, and 24-34 are patentable over Bugosh. As such, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. §102(b) and 35 U.S.C. §103(a) rejections.

3. Claims 1-4, 6-8, 12 and 15-21 were rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Yoshino et al. (US 6,576,342; herein "Yoshino") and claims 1-4, 6-8, 10-12 and 15-21 were rejected under 35 U.S.C. §103(a) as obvious over Yoshino. Applicants respectfully traverse these rejections for the following reasons.

Yoshino is directed to a printing medium provided on a base material with a porous ink receiving layer which includes an alumina hydrate and a binder. Yoshino is silent regarding flow and leveling values, sag resistance, set-to-touch dry time, shear viscosity recovery, and pH. However, the PTO asserts that the composition of Yoshino inherently meets the claimed flow and leveling values, sag resistance, dry time, low shear recovery and pH.

In order to inherently disclose a given property, a reference must necessarily have the recited characteristics. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish inherency of that result or characteristic. (See generally, MPEP 2112). As above, the claimed properties result from use of particular anisotropic boehmite particles in a specific process for forming a coating solution. As noted in the attached Rule 132 Declaration provided by Dr. Yener and as illustrated in the attached Exhibit A, activated samples exhibit distinct and desirable thixotropic properties, while unactivated samples do not. Yoshino is silent regarding activation of boehmite particles. Further, Yoshino does not disclose a surface coating solution that necessarily exhibits the claimed properties and does not disclose a process that necessarily results in a surface coating solution that exhibits the claimed properties. Thus, Yoshino does not inherently disclose the claimed surface coating solution.

Furthermore, in its limited comments on the Applicant's amendment, the PTO appears to rely on the polyvinyl alcohol examples 19-22 of Yoshino to anticipate latex paint including acrylic, as recited in claim 4. The PTO has failed to provide a reasoned statement as to why the polyvinyl alcohol examples of Yoshino anticipate acrylic latex coatings.

For at least the foregoing reasons, claims 1-4, 6-8, 10-12 and 15-21 are patentable over Yoshino. As such, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. §102(e) and 35 U.S.C. §103(a) rejections.

4. Claims 1-3, 8, 10-11, 13-19, 22 and 25-33 were rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over Napier (US 3,357,791). Applicants respectfully traverse this rejection for the following reasons.

Napier is directed to a process for producing colloidal sized particles of alumina monohydrate. Napier further discloses that fibrous boehmite may be used at a concentration of 0.5 to 25% in aqueous floor wax emulsions or pastes utilizing conventional components. (Napier, col. 11, ll. 63-71). Napier is silent regarding activation of anisotropic boehmite particles and does not teach or suggest the claimed flow and leveling characteristics. Moreover, such properties are not inherent in the disclosure of Napier as stated in the attached Rule 132 Declaration provided by Dr. Yener and as shown by the attached Exhibit A.

As above, the claimed flow and leveling characteristics, among others, result from the use of particular anisotropic boehmite particles in a specific process for forming a surface coating solution. Napier fails to teach or suggest a surface coating solution having the claimed flow and leveling characteristics and fails to teach or suggest a method that necessarily produces a surface coating solution having the claimed flow and leveling characteristics. As such, Napier fails to teach or suggest, either explicitly or inherently, each and every element of claims 1 and 22.

For at least the foregoing reasons, claims 1-3, 8, 10-11, 13-19, 22 and 25-33 are patentable over Napier. As such, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. §102(b) and 35 U.S.C. §103(a) rejections.

5. Claims 1-4, 6-8, 10-22, and 24-34 were rejected under 35 U.S.C. §103(a) as obvious over Napier with or without Bugosh. Applicants respectfully traverse this rejection.

As above, both Napier and Bugosh fail to teach or even remotely suggest a surface coating solution having a flow and leveling characteristic of at least 6 mils. Moreover, both Napier and Bugosh fail to teach or suggest activation of boehmite particles. As such, Napier and Bugosh, alone or in combination, fail to teach each and every element of claims 1 and 22.

For at least the foregoing reasons, claims 1-4, 6-8, 10-22, and 24-34 are patentable over Napier alone or in view of Bugosh. As such, Applicants respectfully request reconsideration of the 35 U.S.C. §103(a) rejection.

6. Claims 1-4, 6-8, 10-22, and 24-34 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1 and 5 of copending Application No. 10/978,286 (hereinafter "PA '286"). Applicants respectfully traverse this rejection.

Applicants respectfully submit that, with respect to the pending claims in the present application, the PTO has failed to establish a prima facie case of obviousness over claims 1 and 5 of PA '286. Claim 1 of PA '286 is directed to a polymer composite comprising a polymer base material and a flame retardant filler provided in the polymer base material. The present claims are directed to surface coating solutions having particular thixotropic properties. The thixotropic properties result from activation of boehmite particulate, which is not disclosed in PA '286 and

not found in claims 1 and 5 of PA '286. As such, a surface coating solution having particular thixotropic properties is not obvious in view of claims 1 and 5, which are directed to a flame retardant polymer composite. Accordingly, Applicants respectfully submit that the claims are patentably distinct and Applicants respectfully request withdrawal of the obviousness-type double patenting rejection.

7. Claims 53 and 54 are newly added and recite, among other elements, activated anisotropic boehmite. The cited references are silent regarding activation of anisotropic boehmite and are silent regard use of activated anisotropic boehmite.

8. While the PTO states that it did not take Official Notice in the Office Action dated March 28, 2007, the PTO stated that “such properties are well known to paints which one can buy from home improvement stores.” Applicants object to such a statement and respectfully assert that such a statement is equivalent to Official Notice. In an attempt to bolster an obviousness rejection over Bugosh absent a second reference, the PTO attempted to establish a point of fact that Applicants respectfully state is incorrect. In fact, Applicants have provided an example TEW-464 (Present Application, Table 1) that demonstrates that such properties are not inherent to paints. As such, Applicants respectfully traverse such Official Notice and request a reference in accordance with MPEP 2144.03 or withdrawal of the rejection. In particular, no specific factual findings predicated on sound technical and scientific reasoning to support the PTO’s conclusion is provided.

Applicants respectfully submit that the present application is now in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for all pending claims.


Should the Examiner deem that any further action by the Applicants would be desirable for placing this application in even better condition for issue, the Examiner is requested to telephone Applicants' undersigned representative at the number listed below.

Applicants do not believe that any additional fees are due, but if the Commissioner believes additional fees are due, the Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-3797.

Respectfully submitted,

Date

10.30.08

  
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